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Brad D. Tidwell

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EXAMINER

RUTKOWSKI, JEFFREY M

ART UNIT

PAPER NUMBER

2619

MAIL DATE

DELIVERY MODE

05/01/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/758,903

Applicant(s)

TIDWELL ET AL.

Examiner

JEFFREY M. RUTKOWSKI

Art Unit

2619

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 April 2008.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 12-32 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-10 and 12-32 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 16 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/S508)
Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Claim 11 has been cancelled.

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 04/03/2008 has been entered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. **Claims 28-32** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification is silent regarding a transmission rate of 772 Kbits/sec.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
5. **Claims 1-3, 7-8, 13, 17-18, 21 and 24-27** are rejected under 35 U.S.C. 103(a) as being unpatentable over Delvaux (US Pat 6,775,305) in view of Daruwalla et al. (US Pat 7,058,007), hereinafter referred to as Daruwalla, and Lowell et al. (US Pat 6,282,265), hereinafter referred to as Lowell.
6. For **claims 1, 7-8, 13, 17-18, 21 and 24-27**, Delvaux teaches two types of High Speed Digital Subscriber Line (HDSL) architectures. For HDSL transmission, a mapper (logic) is used to transmit a portion of a data stream over one copper pair, while a second portion of the data stream is transmitted over a second copper pair. For HDSL reception, a mapper is used to reconstruct the original data stream [col. 5 lines 35-55]. The first type of HDSL architecture uses a two twisted copper wire pairs to provide T-1 capacity service of 1.54 Mbps. A European version of the HDSL architecture uses three twisted copper wire pairs with respective transceivers, multiplexers and demultiplexers to provide E-1 capacity service of 2.048 Mbps [col. 4 lines 54-64].

7. Lowell expands on the teachings of Delvaux by disclosing spare wire pairs are commonly used in telecommunications networks, including HDSL networks **[col. 1 lines 15-30, col. 3 lines 35-40]**. Additionally, market forces are requiring telecommunications companies to optimize copper plant **[col. 1 lines 1-19]**. Since Delvaux teaches there are two approaches to implementing an HDSL architecture and Lowell teaches spare wire pairs are used in HDSL networks, it would have been obvious to a person of ordinary skill in the art at the time of the invention to use a European three transceiver set to provide T-1 capacity service to optimize the telecommunications network by providing a spare channel to perform, inter alia, out-of-band management functions **[Lowell, col. 1 lines 25-30]**. The person of ordinary skill in the art would recognize that there is a reasonable expectation of success by using a European transceiver set to provide T-1 services because there is no change the intended use of the European transceiver set.
8. Delvaux does not teach a 1:N protection scheme. Daruwalla teaches the 1:N protection limitation absent from the teachings of Delvaux by disclosing a Cable Modem Termination System (CMTS) architecture (high speed architecture) where one working machine provides protection for all of the other machines **[col. 6 lines 24-27]**. A path switch occurs when a component in the CMTS architecture is detected to have failed **[col. 13 lines 10-15]**. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use a 1:N protection scheme in Delvaux's invention to avoid having a single point of failure in the network **[Daruwalla, col. 5 lines 45-60]**.
9. For **claims 2 and 3**, Delvaux teaches the transceivers are located in a Central Office (CO) **20** and a Customer Premises (CP) **40 [figure 2]**.

10. **Claims 4, 9, 14, 19 and 22** are rejected under 35 U.S.C. 103(a) as being unpatentable over Delvaux in view of Daruwalla and Lowell, as applied to **claim 1** above, and further in view of Doll et al. (US Pat 5,694,398), hereinafter known as Doll.

11. For **claims 4, 9, 14, 19 and 22**, the combination of Delvaux, Daruwalla and Lowell do not teach the use of transformers. Doll teaches transformers **LTx** are used in Network Termination (NT) equipment [**figure 2**]. Phantom connections from taps on the subscriber side of the transformers are used to supply subscriber terminals [**col. 4 lines 27-46 and figure 2**] (a transformer coupled to the third transceiver, the transformer having a pair of taps coupled to the third subscriber line). Figure 2 also shows a DC power source is used to supply a voltage across transformer taps. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use transformers in Delvaux's invention to supply operational voltage to subscriber equipment.

12. **Claims 5, 12 and 15** are rejected under 35 U.S.C. 103(a) as being unpatentable over Delvaux in view of Daruwalla and Lowell, as applied to **claim 1** above, and further in view of Renucci et al. (US Pat 6,996,134), hereinafter known as Renucci.

13. For **claims 5, 12 and 15**, the combination of Delvaux, Daruwalla and Lowell do not teach the use of a control element or a Direct Current (DC) power source. Renucci teaches a power conditioner **64** injects Direct Current (DC) power into the modulated signal to provide power to customer equipment [**col. 5 lines 52-55**]. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use a DC power source in Delvaux's invention to

make sure customers will still have phone service during a power outage at the customer location.

14. Renucci also teaches the control element limitation absent from the teachings of the combination of Delvaux, Daruwalla and Lowell by disclosing bypass relays **82** are used to switch subscriber lines **84A,84B** from a processing module **78** to AML modulator/demodulator **76 [col. 9 lines 5-10 and figure 5]**. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use bypass relays in Delvaux's invention to implement a 1:N protection scheme in hardware.

15. **Claims 6, 10, 16, 20 and 23**, are rejected under 35 U.S.C. 103(a) as being unpatentable over Delvaux in view of Daruwalla and Lowell, as applied to **claims 1** above, and further in view of Obelode et al. (US Pat 4,935,642), hereinafter known as Obelode.

16. For **claims 6, 10, 16, 20 and 23**, Delvaux does not teach the summation of power. Daruwalla teaches transmission power is re-optimized after a failure **[col. 13 lines 40-55]**. The combination of Delvaux, Daruwalla and Lowell do not teach the summation of power across the subscriber lines. Obelode teaches the summation of power limitation absent from the teachings of Delvaux, Daruwalla and Lowell by disclosing the distribution of electric power to functional units **[abstract]**. A preset limit value of the total power supply, power coming in from subscriber lines **[col. 3 lines 25-30]**, needs to be less than the sum of the highest possible individual powers **(P10, P11, P12) [abstract]** (further comprising a control element configured to sum power from at least two of the subscriber lines). It would have been obvious to a person of ordinary skill in the art at the time of the invention to calculate the total power supply via

summation of the subscriber lines in Delvaux's invention to make sure the subscriber lines supply enough power to allow a subscriber's station to operate.

17. **Claims 28-32** are rejected under 35 U.S.C. 103(a) as being unpatentable over Delvaux in view of Daruwalla and Lowell as applied to **claims 1, 7, 13, 17 and 21 respectively** above, and further in view of Itri (US Pat 5,864,592).

18. For **claims 28-32**, Delvaux teaches the use of transceivers in an HDSL architecture. The combination of Delvaux, Daruwalla and Lowell does not teach a speed associated with the HDSL architecture. Itri teaches an HDSL architecture is made up of two 772 Kbit/sec channels [**col. 1 lines 20-25**]. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use 772 Kbit/sec channels in Delvaux's invention to provide T-1 services to end-users [**Itri, col. 1 line 20**].

Response to Arguments

19. Applicant's arguments with respect to **claims 1-27** have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEFFREY M. RUTKOWSKI whose telephone number is (571)270-1215. The examiner can normally be reached on Monday - Friday 7:30-5:00 PM EST.

21. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

22. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jeffrey M Rutkowski
Patent Examiner
04/23/2008

/Hassan Kizou/

Supervisory Patent Examiner, Art Unit 2619